What Is Claimed Is:

1. An electrolysis method wherein a positive electrode and a negative electrode are immersed in electrolyte in an electrolysis tank to cause electrolysis to occur, comprising the step of:

applying an opposite magnetic field for canceling a magnetic field produced by main electric current and ion current flowing in the electrolyte from said positive electrode to said negative electrode.

2. An electrolysis method as claimed in claim 1, wherein electric current of a direction opposite to that of the main electric current and the ion current flowing in the electrolyte from said positive electrode to said negative electrode is supplied to an electric circuit provided between but separate from said positive electrode and said negative electrode to produce the opposite magnetic field which cancels the magnetic field produced by the main electric current and the ion current flowing in the electrolyte.

3. An electrolysis method as claimed in claim 1, wherein the opposite magnetic field which cancels the magnetic field produced by the main electric current and the ion current flowing in the electrolyte is produced using a permanent magnet or an electromagnet.

4. An electrolysis method as claimed in claim 1, wherein an electric field is increased by an auxiliary positive electrode coated with an electric insulating material and disposed at

a position in the proximity of said positive electrode remote from said negative electrode.

5. An electrolysis method as claimed in claim 1, wherein said negative electrode is made of a hydrogen occluding substance and occludes hydrogen atomic nuclei.

6. An electrolysis method wherein a positive electrode and a negative electrode are immersed in electrolyte in an electrolysis tank to cause electrolysis to occur, comprising the step of:

using, as said electrolysis tank, an electrolysis tank which is partitioned into a positive electrode tank and a negative electrode tank by an electrically insulating nonmagnetic partition having an opening through which the electrolyte can communicate between said positive electrode tank and said negative electrode tank and in which said positive electrode is disposed in said positive electrode tank and said negative electrode is disposed in said negative electrode tank to perform electrolysis wherein main electric current and ion current flowing in the electrolyte from said positive electrode through said opening to said negative electrode flows in the opposite directions to each other at a place from said positive electrode to said opening and another place from said opening to said negative electrode across said partition thereby to produce magnetic fields which cancel each other.

7. An electrolysis method as claimed in claim 6, wherein said negative electrode is made of a hydrogen occluding substance

and occludes hydrogen atomic nuclei.

8. An electrolysis apparatus, comprising:

an electrolysis tank;

a positive electrode and a negative electrode immersed in electrolyte in said electrolysis tank to cause electrolysis to occur; and

means applying an opposite magnetic field for canceling a magnetic field produced by main electric current and ion current flowing in the electrolyte from said positive electrode to said negative electrode.

9. An electrolysis apparatus as claimed in claim 8, further comprising an electric circuit provided between but separate from said positive electrode and said negative electrode for supplying electric current to flow in a direction opposite to that of the main electric current and the ion current flowing in the electrolyte from said positive electrode to said negative electrode to produce the opposite magnetic field which cancels the magnetic field produced by the main electric current and the ion current flowing in the electrolyte.

10. An electrolysis apparatus, comprising:

an electrolysis tank; and

a positive electrode and a negative electrode immersed in electrolyte in said electrolysis tank to cause electrolysis to occur;

said electrolysis tank being partitioned into a positive electrode tank and a negative electrode tank by an electrically

insulating nonmagnetic partition having an opening through which the electrolyte can communicate between said positive electrode tank and said negative electrode tank, said positive electrode being disposed in said positive electrode tank while said negative electrode is disposed in said negative electrode tank to perform electrolysis wherein main electric current and ion current flowing in the electrolyte from said positive electrode through said opening to said negative electrode flows in the opposite directions to each other at a place from said positive electrode to said opening and another place from said opening to said negative electrode across said partition thereby to produce magnetic fields which cancel each other.